

CLAIMS

Though the invention has been described in reference to a single example, optionally incorporating various features, the invention is not to be limited to the set-up described. The invention is not limited to the uses noted or by way of the exemplary description provided herein. It is to be understood that the breadth of the present invention is to be limited only by the literal or equitable scope of the following claims. That being said, we claim:

1. A printing system comprising:

a pulse-jet printhead, a manometer and lines configured to connect said printhead and manometer in parallel to a fluid source to be connected to a pressure compensation source, wherein said system is adapted to vary an output of said pressure compensation source to maintain a fluid level within said manometer in a predetermined range to maintain fluid pressure at said nozzle within a corresponding range.

2. The system of claim 1, further comprising a fluid source.

3. The system of claim 2, further comprising a sensor to generate a signal in response to the fluid level within said manometer, and a control unit which generates a control signal for said pressure compensation source in response to said sensor signal.

4. The system of claim 1, further comprising a pressure compensation source.

5. The system of claim 1, further comprising a first valve at an exit of said manometer.

6. The system of claim 1, further comprising a second valve at an entrance to said fluid reservoir.

7. The system of claim 6, further comprising a supply vessel to feed a print medium to said fluid source.

8. The system of claim 1, further comprising a print medium.

9. The system of claim 8, wherein said print medium comprises a biopolymers or precursor thereof.

10. A method of maintaining a desired pressure of a print medium at a pulse-jet nozzle comprising:

providing a system comprising a manometer connected to a fluid reservoir in parallel with said nozzle;

applying pressure to said fluid reservoir;

monitoring a fluid level in said manometer; and

adjusting said pressure applied to said fluid reservoir in response to changes in said manometer level.

11. The method of claim 10, wherein said pressure applied is negative pressure.

12. The method of claim 10, wherein said pressure applied is positive pressure.

13. The method of claim 10, further comprising attaching a fluid supply vessel to said fluid reservoir, and feeding a print medium from said fluid supply vessel to said fluid reservoir.

14. A printing system comprising:
a pulse-jet printhead, a pressure gauge and a reservoir having an inlet line and an outlet line, said inlet line capped by a valve for connection to a fluid supply and said outlet line in fluid communication with said printhead.

15. The system of claim 14, wherein said pressure gauge comprises a manometer.

16. The system of claim 15, further comprising a fluid supply vessel.

17. The system of claim 16, wherein said supply vessel is connected to said reservoir via a supply vessel line connected to said valve.

18. A method of replenishing a pulse-jet reservoir comprising:
providing a system as described in claim 17,
connecting a fluid supply vessel to said reservoir;
opening said valve, and
feeding print medium from said fluid supply vessel to said reservoir.

19. The method of claim 18, wherein said supply vessel is connected to said reservoir via a supply vessel line connected to said valve.

20. The method of claim 19, wherein said print medium is fed under pressure to said reservoir.

21. The method of claim 20, wherein gauge pressure is monitored and pressure compensation is applied to maintain said pressure within a desired range.

22. The method of claim 20, wherein said pressure gauge comprises a manometer.

23. The method of claim 20, wherein said print medium a biopolymer or precursor thereof.

24. The method according to claim 23, wherein said method is a method of producing a biopolymer array.

25. A biopolymeric array produced according to the method of claim 24.

26. A method of detecting the presence of an analyte in a sample, said method comprising:

(a) contacting (i) a biopolymeric array according to Claim 25 having a polymeric ligand that specifically binds to said analyte, with (ii) a sample suspected of comprising said analyte under conditions sufficient for binding of said analyte to a biopolymeric ligand on said array to occur; and

detecting the presence of binding complexes on the surface of the said array to detect the presence of said analyte in said sample.

27. The method according to claim 26, wherein said method further comprises a data transmission step.

28. A method according to claim 27 wherein the data is communicated to a remote location.

29. A method comprising receiving data representing a result of a reading obtained by the method of claim 27.